REMARKS

Claims 10 – 15 and 26 – 32 are presently pending in the application. Claims 10, 13, 14, 26, 29, 30 and 32 have been amended, and claims 1 – 9 and 16 – 25 cancelled without prejudice. Claims 10 and 26 are now independent. No new matter has been added and support for the amendments to the claims can be found in the specification and drawings. In view of the claim amendments and arguments for patentability set forth below, Applicants respectfully submit that this application is now in condition for allowance.

Claim Rejections – 35 U.S.C. § 112

Claims 10, 13, 26 and 29, as amended, are believed to overcome the outstanding rejection under Section 112. In addition, claims 14 and 30 have been amended to correct minor typos.

Claim Rejections – 35 U.S.C. § 103(e)

Pending claims 10 – 15 and 26 – 31 stand rejected as being unpatentable over Penninckx in view of Way et al. U.S. Patent No. 6,583,903 ("Way"). Applicants traverse this rejection and respectfully submit that the combination of Penninckx and Way fails to disclose or suggest the claimed invention.

Penninckx teaches a PMD compensating system that utilizes a measurement parameter representative of the quality of an optical signal and adjusts a polarization controller such that the measurement parameter is maintained at "an extreme value corresponding to the maximum quality of the signal $S_{r\lambda}$." See Col. 7, lines 24 – 32. As described in Penninckx:

> The performance of the regulation loop as a whole must be adapted to the PMD problem. In particular, the response time must be compatible with the speed at which the PMD fluctuates in practice. Also, it must be sufficiently accurate to achieve an improvement, and the accuracy depends on the required level of improvement. This condition in respect of the accuracy may be expressed by stating that the angle Φ between the direction e of the principal states of polarization of the link as a whole between the emitted signal $S_{e\lambda}$ and the received signal $S_{r\lambda}$ and the direction of the polarization vector S of the received signal $S_{r\lambda}$ must remain at all times below a given value enabling an improvement in the quality of the signal compared to a transmission system with no compensation.

> Experiments show that this angle must generally be less than 10 degrees and preferably less than 3 degrees.
>
> Knowing that the polarization vector S can rotate up to 50 times per second, the minimum response time to be imposed on the regulation loop can be deduced, as appropriate to the required signal quality. In practice, the response time must be less than one millisecond, for example.

Col. 7, lines 41 – 61.

Thus, Penninckx adjusts the polarization angle of the optical signal based on a threshold value that "enables an improvement in the quality of the signal compared to a transmission system with no compensation."

Way discloses a method and system for controlling PMD by utilizing a feedback signal that is "based on observed bit-error-rate (BER), estimated best attainable BER, or estimates of PMD affecting the received signal." See Abstract.

However, with regard to claims 10 and 26, neither Penninckx nor Way, either taken alone or in combination as asserted by the Examiner, teaches or suggests a first optical compensator positioned at a location between the optical source and the optical receiver and defined by the ratio $L1$ / $L2$, wherein said ratio is less than approximately 1.5, and wherein $L1$ is the length of a first optical conduit between the optical compensator and optical source, and $L2$ is the length of the second optical conduit between the optical compensator and optical receiver.

Fig. 10 of Way merely shows a system block diagram of a first site 1080 that transmits optical signals, and a second site 1090 for receiving optical signals communicated over an optical fiber 1020. There is nothing in this illustration, or for that matter, the Way specification, that suggests locating an optical compensator in accordance with the specified ratio as called for in the instant claim. The same argument applies with regard to Fig. 2 and the specification of Penninckx, as this reference fails to address the particular location of the optical compensator as claimed.

The Examiner further contends, with reference to the same portions of Penninckx and Way, that the combination of these references teaches "the first optical compensator [is] positioned at a location between the optical sources and the optical receiver and defined by the ratio $\overline{\Psi}1 / \overline{\Psi}2$ and wherein $\overline{\Psi}1 / \overline{\Psi}2$ is less than approximately 1.2, and wherein $\overline{\Psi}1$ is the average PMD of a first optical conduit between the optical compensator and the optical source, and $\overline{\Psi}2$ is [the, sic] average of the second optical conduit between the optical compensator and optical receiver (see Fig. 10 of Way and Fig. 2 of Penninckx)." Office Action at pages 6 - 7. Here again, Applicants respectfully submit that neither of these references suggests the claimed structure as the cited illustrations and the respective specifications fail to mention anything about positioning the optical compensator as claimed.

Pending claims 10 – 16 and 26 – 32 stand rejected under Section 103(a) as being unpatentable over Bruyere et al. U.S. Patent No. 6,178,021 in view of Way. Applicants hereby reaffirm the above argument distinguishing Way and further submit that Bruyere fails to remedy the deficiencies in the disclosure of Way.

The Examiner contends that "[r]egarding claims 10 – 12 and 26 – 28, the combination of Bruyere and Way teaches the first optical compensator [is] positioned at a location between the optical source and the optical receiver and defined by the ratio L1/L2 and wherein L1/L2 is less than approximately 1.5, and wherein L1 is the length of a first optical conduit between the optical compensator and optical source, and L2 is the length of the second optical conduit between the optical compensator and optical receiver (see Fig. 10 of Way and Fig. 2 of Bruyere)." Office Action at page 9.

Bruyere discloses a system for compensating for PMD that employs a plurality of cascaded polarization control modules that are respectfully associate with each channel of a wavelength-division multiplexed optical signal. With reference to Fig. 2 of Bruyere, there is shown a schematic block diagram of an optical compensator comprising cascaded control modules. However, there is nothing in this illustration, nor contained anywhere in the specification of Bruyere, that teaches or suggests positioning an optical compensator as called for

in the instant claims. Accordingly, Applicants respectfully submit that claims 10 – 12 and 26 – 28 are patentable over the combination of Bruyere and Way. Similarly, it is believed that claims 13 – 15 and 29 – 31 are patentable for the same reasons, as the limitations on the position of the optical compensator in those claims are neither taught nor suggested in either of the cited references.

In view of the foregoing, Applicants respectfully submit that claims 10 – 15 and 26 – 32 are patentable over the cited art, and allowance of these claims at an early date is solicited.

The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. 1.16 or 1.17 to AT&T Corp. Account No. 01-2745. The Examiner is invited to contact the undersigned at (908) 707-1573 to discuss any matter concerning this application.

Respectfully submitted,
Jonathan A. Nagel, et al.
By:

Date: 5/22/06

Gary H. Monka
Registration No. 35,290
Attorney for Applicants

Canavan & Monka, LLC.
250 State Route 28, Suite 207
Bridgewater, New Jersey 08807
(908) 707-1573